

**WHAT IS CLAIMED IS:**

1. An HTTP based video streaming apparatus, comprising:  
a memory configured to store content files received from a transmitting server; and  
a random access searching unit configured to search a random access point in the memory, and to transmit a content file request message to the transmitting server if the random access point does not exist in the memory.
- 2 The apparatus of claim 1, further comprising a display unit configured to displaying the files from the random access point stored in the memory.
3. The method of claim 1, wherein the memory is a storage disk.
4. The apparatus of claim 1, wherein the transmitting server stores the content files as an MP4 file form according to a file fragmentation process.
5. The apparatus of claim 4, wherein the MP4 file form comprises:  
a plurality of data segments, a representative header associated with a first of a plurality of data segments; and  
a plurality of segment headers, each associated with remaining ones of the plurality of data segments.

6. The apparatus of claim 1, wherein the transmitting server configures a new data stream based on the random access point requested by the random access searching unit.

7. A method of providing an HTTP based video stream for a mobile communication system, comprising:

requesting a prescribed content file from a transmitting server when a random access point required by a user is not stored in a local memory; and

receiving a data stream from the transmitting server beginning from the random access point.

8. The method of claim 7, further comprising the received content files on a display device.

9. The method of claim 8, wherein displaying the content files plays the files after storing the files received from the transmitting server for a prescribed period of time.

10. The method of claim 7, wherein the data stream is reconfigured based on the random access point.

11. The method of claim 7, wherein the transmitting server stores the content files as MP4 file form applied by file fragmentation process.

12. The method of claim 7, wherein requesting the prescribed content file from the transmitting server comprises:

requesting random access for a prescribed content by the user;

determining whether the requested random access point is stored in a local memory; and

transmitting a content file request message to the transmitting server when the random access point is not stored in the local memory.

13. The method of claim 7, wherein receiving the data stream comprises:

searching the random access point by the transmitting server upon receiving a content file request message;

reconfiguring the data stream by setting a new data transmission starting point according to a screen type of the random access point; and

receiving the reconfigured data stream as at least one TCP packet.

14. The method of claim 13, wherein the screen type is one of an I-frame and a P-frame.

15. The method of claim 13, wherein reconfiguring the data stream comprises:

determining whether the random access point is an I-frame or a P-frame;

configuring a data transmission starting point and a new media data sample based on the random access point; and

changing header information of the media data sample including the data transmission starting point.

16. The method of claim 15, wherein the header information comprises:  
time information of the media data sample; and  
meta information corresponding commonly to the respective media data samples of the data stream.

17. The method of claim 15, wherein changing the header information comprises transmitting the header information included in a header of an original media data sample to a header of the new media data sample, including the data transmission starting point.

18. The method of claim 15, wherein the data transmission starting point is equivalent to the I-frame when the random access point is the I-frame.

19. The method of claim 15, wherein configuring the media data sample comprises:  
determining whether or not the random access point that is set as the data transmission starting point is the P-frame;

searching an I-frame closest to the random access point if the random access point is the P-frame and is not set as the data transmission starting point; and

configuring the media data sample by taking the closest I-frame as the data transmission starting point.

20. The method of claim 19, further comprising:

searching the I-frame closest to the P-frame random access point;

converting the P-frame into a new I-frame by calculating a value of the I-frame closest to the P-frame random access point and a next P-frame; and

repeatedly converting next P-frames into new I-frames until the P-frame random access point, if the P-frame is set as the data transmission starting point.

21. The method of claim 19, further comprising transmitting data commencing at the closest I-frame.

22. An HTTP based video streaming method of a mobile communication system, comprising:

receiving a random access request from a remote unit by a transmitting server;

searching the random access point in a content file stored in the transmitting server;

reconfiguring a data stream according to a screen type of the random access point and a coincidence between the random access point and a data transmission starting point; and

transmitting the reconfigured data stream to the remote unit.

23. The method of claim 22, wherein the content file in the server is an MP4 file applied by a file fragmentation process, and the data stream includes a plurality of media data samples and a plurality of headers of the respective media data samples.

24. The method of claim 23, wherein the plurality of headers comprises:  
a representative header including common meta information of the respective media data samples and time information of a first media data sample; and  
at least one segment header including time information of the respective media data samples except the first media data sample.

25. The method of claim 22, wherein the screen type comprises one of an I-frame and a P-frame.

26. The method of claim 22, wherein reconfiguring the data stream comprises:  
determining whether or not the random access point is an I-frame or a P-frame;

configuring the media data sample having the random access point as the data transmission starting point when the random access point is the I-frame;

configuring a new data stream using the media data sample and continuous media data samples; and

changing header information of a first media data sample segment.

27. The method of claim 26, further comprising one of converting the P-frame to a new I-frame and setting an I-frame closest to the P-frame as the data transmission starting point, when it is determined that the random access point is the P-frame.

28. The method of claim 26, wherein the header information further comprises meta information which is common for the media data samples.

29. The method of claim 22, wherein reconfiguring the data stream comprises:

searching an I-frame closest to the random access point if the random access point is a P-frame and is not set as the data transmission starting point;

configuring a media data sample having the I-frame as the data transmission starting point;

configuring a new data stream using the media data sample and the continuous media data samples; and

changing a first header information of the new data stream.

30. The method of claim 22, wherein reconfiguring the data stream comprises:
- searching an existing I-frame closest to the random access point when the random access point is a P-frame and is the data transmission starting point;
  - converting the P-frame into a new I-frame by calculating values of the existing I-frame and a next P-frame;
  - repeatedly performing the converting until the next P-frame is the P-frame of the random access point to convert the P-frame random access point into a final new I-frame;
  - configuring the media data sample having the final new I-frame as the data transmission starting point;
  - configuring the new data stream using the media data sample and the continuous media data samples; and
  - changing a first header information of the new data stream.
31. An HTTP based video streaming method in a random access method of data stream including a plurality of headers having a plurality of media data samples and time information for the respective media data samples, comprising:
- searching an I-frame closest to a random access point required by a user;
  - configuring a media data sample to set the I-frame as a data transmission starting point; and
  - changing header information of the media data sample.



32. The method of claim 31, wherein changing the header information comprises transmitting meta information of respective media data stored in a first header before changing to a changed first header.

33. An HTTP based video streaming method in a random access method of a data stream including a plurality of headers having a plurality of media data samples and time information for the media data samples, comprising:

searching an I- frame closest to a P-frame random access point required by a user;

converting a next P-frame which is adjacent to the I-frame into a new I-frame through calculating using the next P-frame and the I-frame;

configuring a media data sample by setting the new I-frame as a data transmission starting point after converting the P-frame random access point into the new I-frame; and

changing header information of the media data sample.

34. The method of claim 33, wherein changing the header information comprises transmitting meta information of respective media data stored in the first header before changing to the changed first header.